Amendments to the Drawings:

The attached replacement sheets for Figs. 1, 2, and 3 replace the original sheets for Figs. 1, 2, and 3, respectively. In the replacement sheet for Fig. 1, the horizontal and vertical axes of the system 4, as used in claim 16, referred to in paragraph [0028] of Applicant's published specification, and illustrated in original Fig. 1, are now referenced as nos. 27 and 28, respectively. In the replacement sheets for both Figs. 2 and 3, both the engaging device and the corresponding disk are now shown with toothed peripheries, as referred to in paragraph [0025] of Applicant's published specification, with the periphery of the corresponding disk being referenced as no. 26 in both Figs. 2 and 3. Accordingly, no new matter is submitted with the replacement sheets being submitted herewith for Figs. 1, 2, and 3.

Attachment: Replacement Sheet for Fig. 1
Annotated Sheet Showing Changes for Fig. 1

Replacement Sheet for Fig. 2
Annotated Sheet Showing Changes for Fig. 2

Replacement Sheet for Fig. 3
Annotated Sheet Showing Changes for Fig. 3

REMARKS/ARGUMENTS

The present Amendment amends claims 16, 20, 21, and 23-36, cancels claim 22, and adds claims 37 and 38. Upon entry of this Amendment, claims 16-21 and 23-38 will be pending. Accordingly, the application currently presents twenty-two (22) total claims, of which one is independent (claim 16). In light of the additional claim and request for two months of extension, Applicant expects a fee of $510 to be due, which is being paid electronically with submittal of this Amendment. For any other fees which are deemed necessary following submittal of this Amendment, the undersigned hereby authorizes such fees to be charged to our deposit account, Deposit Account No. 061910.

Specification

Paragraphs [0025] and [0028] of Applicant's published application are hereby amended for reasons described below under sections entitled "Drawings" and "Claim Rejections – 35 USC § 112", respectively.

Drawings

In the Office Action, Examiner objected to the drawings under 37 CFR 1.83(a), stating that the claimed features of the "skid" (claim 22) and the "complex of toothed wheels…in contact on the peripheral toothing of the corresponding disks…" (claim 25) are not shown by the drawings. Claim 22 by this Amendment is now cancelled; as such, the corresponding objection with respect to that claim is now moot.

With respect to the claimed features of claim 25, such features find support in paragraph [0025] of Applicant's published application. In particular, paragraph [0025] teaches that "…the device 21 for the rotation of each disk can be made by a toothed wheel..." Further, paragraph [0025] teaches that "[s]aid toothed wheel 21 permanently engages a toothing position on the periphery of its corresponding disk of the stack 9." In light of paragraph [0025], replacement drawings for Figures 2 and 3 are submitted herewith, each illustrating toothed peripheries on both the device 21 and the disk of the stack 9, with the periphery of the disk (along which its "toothing positions" engage the toothed wheel 21) being referenced as no. 26. Accordingly, no new matter is provided through these replacement drawings. In addition, Applicant has amended paragraph [0025] to correspond with the replacement sheets for Figs. 2 and 3; i.e., referencing the disk periphery as no. 26. Accordingly, no new matter is provided through the amendment made to paragraph [0025].

In light of the above, Applicant respectfully requests Examiner remove the objections to the drawings.

Claim Rejections – 35 USC § 112

In the Office Action, Examiner rejected claims 16-36 under 35 USC 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant finds no concern with claims 17-19 and requests Examiner to provide corresponding comment, if in fact, there are 112 concerns.

With respect to claim 16, Examiner states that no vertical or horizontal structure is recited in claim 16; however, Applicant respectfully disagrees. Applicant respectfully asserts that "vertical axis" and "horizontal axis" are used and described as structural elements of the Cartesian robotic system 4. For example, as described in paragraph [0028] of Applicant's published specification, the vertical axis "is fitted with pick-up device 18 and the end of an optical sensor 10…" Further in paragraph [0028], Applicant describes a "skid" in reference to "the horizontal movement" of the robotic system 4, where such "skid" conveys the vertical axis. In order to be so fitted and so conveyed, a skilled artisan would understand the vertical axis itself being recited structure.

With respect to the horizontal axis, paragraph [0028] teaches the system 4 having two numerical control axes, with such descriptive language denoting the axes to be structural. One such axis is later referred to in the same paragraph as the vertical axis, as described above. By the collective use of the vertical and horizontal axes provided in claim 16, the skilled artisan would understand the horizontal axis to be another of such numerical control axes. Further, claim 16 describes "the vertical axis movable along the horizontal axis". Likewise, in paragraph [0028], the "skid" is similarly linked to "horizontal movement" in conveyance of the "vertical axis". Consequently, Applicant asserts the skilled artisan would understand this "horizontal movement" of the "skid" to be movement along the "horizontal axis". Accordingly, by such inference to the horizontal axis in paragraph [0028], the skilled artisan would be further led to understand the horizontal axis to be another of such numerical control axes. Thus, for the reasons above, such horizontal axis itself would be understood by the skilled artisan as the recited structure.

In light of the above, Applicant respectfully requests Examiner to withdraw the 112 rejection of claim 16. Based on claim 16 and paragraph [0028], a replacement sheet for Figure 1

is submitted herewith, referencing the horizontal axis and the vertical axis as no. 27 and no. 28, respectively. Accordingly, no new matter is provided through this replacement drawing.

In addition, Applicant has amended paragraph [0028] to correspond with the replacement sheet for Fig. 1 regarding the horizontal and vertical axes now referenced. Further, in light of the link between the "skid" and the "horizontal axis" as described above, Applicant has amended paragraph [0028] describing the skid to be "movable along a horizontal axis". Accordingly, no new matter is provided through the amendments made to paragraph [0028].

With respect to Examiner's rejections and corresponding comments regarding claims 22, 25, 26, 27, 32, 34, and 35, the claims have been addressed as described below. Claim 22 has been deleted; thus, the rejection thereof is now moot. Claim 25 now refers to "a peripheral toothing". Claim 26 now refers to "an 0 device". Claim 27, instead of referring to "disks blocking device", now refers to "0 device". Claim 32 now depends on claim 19, thereby remedying the antecedent basis issue concerning "controlled-access opening". Claim 34 replaces "each mechanism for driving...in the chamber" with "the robotic system, a system for identifying the sample, an optical sensor and an I/O drawer are contained in the upper chamber". Finally, claim 35 replaces "N/C system" with "control system". In addition, claims 20, 21, 23, 24, 28-31, 33, and 36 have been amended to address antecedent basis issues. Accordingly, Applicant submits the stated 112 rejections have now been overcome, and respectfully requests the withdrawal of these rejections.

Claim Rejections – 35 USC § 102(e) and 35 USC § 103(a)

Claims 16, 24-29, 31, 33, and 35-36 currently stand rejected under 35 U.S.C. 102(e) as being anticipated by Pressman et al. (U.S. Patent Pub. No. 2003/02118487). Further, claims 17-23, 30 and 34 currently stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pressman in view of Knippscheer et al (U.S. Patent No. 5,233,844). Applicant respectfully traverses the above 102(e) and 103(a) rejections, and only amends the claims to tend to potential antecedent basis items and the Examiner's stated 112 rejections.

Applicant respectfully asserts that Pressman fails to anticipate claim 16 for at least three reasons. In particular, Pressman fails to teach (i) a *Cartesian* robotic system, (ii) a system having *both* an upper chamber and a lower chamber, or (iii) a system comprising a horizontal axis lying along a *diameter* of the stacked disks, all of which are features required by claim 16.

In the rejection of claim 16, Examiner asserts that Pressman teaches a Cartesian robotic system 300 being disposed in the upper chamber (see page 5, second paragraph). Applicant respectfully disagrees. In paragraph [0020] of Applicant's published application, a Cartesian system 4 is referred to. Such system is well known to have two perpendicular axes, a horizontal one (or x-axis or axis of abscissae) and a vertical one (or y-axis or axis of ordinates). For example, in the system 4 of Figure 1, the device 18 is subject to being carried along the axes (now referenced as horizontal axis 27 and vertical axis 28), with movement along these axes being represented by the cross symbol shown in Figure 1. Accordingly, when referring to a Cartesian system, reference to its corresponding axes would be clear. In paragraph [0028], a robotic system 4 is referred to. It would be understood that it is the same Cartesian system 4 referenced in paragraph [0020]. The robotic system 4 is specified to have two numerical control axes (in paragraph [0028]); as such, the respective positioning with respect to its control axes would already be clear from paragraph [0020] and reference to Figure 1.

In the present invention, with reference to Fig. 1, a Cartesian robotic system 4 is taught, which is disposed in the chamber 2 and comprises a horizontal axis lying along a diameter of the stacked disks 9 above the opening 7 of the shelf 6. This leads to an easy loading or unloading the samples 19. One of the objective problems faced by the present invention is to provide a system improved in terms of easiness in extraction of samples from the chamber. In turn, the invention of claim 16 solves this problem by providing a Cartesian robotic system 4 disposed in the chamber 2, which comprises (i) a horizontal axis lying along a diameter of the stacked disks 9 above the opening 7 of the shelf 6, and (ii) a vertical axis movable along the horizontal axis and along which a pick-up device 18 can move into and out of the lower chamber 1 for loading or unloading the samples 19. One advantage of the present invention is that the insertion/extraction of the samples is carried out with only two movements, and correspondingly two axes, of the robotic system.

Pressman cannot operate according to a Cartesian system (meaning a mobility along only two axes); to the contrary, a mobility along three axes is required (e.g., as described in Pressman at Paragraphs [0133] and [0137] in reference to Figs. 12-15 and 19). In particular, Pressman, apart from a vertical motion, which occurs also in the present invention, involves a combination of a rotary motion of the arm 304 around a vertical axis, as well as the horizontal extension or withdrawal of the same arm to reach a position vertically aligned with the sample to be unloaded.

Consequently, the Cartesian robotic system of claim 16 involves a less complex system, (involving only horizontal and vertical axis structures) as compared to the teachings of Pressman, and therefore, cannot be anticipated by Pressman.

In the rejection of claim 16, Examiner also asserts that Pressman teaches a system including an upper chamber separated from a lower chamber by means of a shelf 262 fitted with an opening 266. While Applicant agrees that shelf 262 of Pressman (in reference to Fig. 17) enables separation for the portion of the machine used for storing specimen containers from that which is above such portion, such shelf 262 by itself does not form upper and lower chambers for the machine. In particular, the portion of the machine above the shelf 262 is neither described in the specification nor is cited in the claims as being a chamber; to the contrary, such portion above the shelf 252 is shown to be fully open to the environment, which would not be symbolic of a chamber. To that end, Applicant asserts that the Pressman system is designed to work without the need of an upper chamber, as further described below. Moreover, when referencing the lower and upper chambers in the rejection of claim 16, Examiner fails to even reference corresponding elements in Pressman (see page 5, second paragraph), which further supports the lack of teaching from Pressman concerning teaching a system having both upper and lower chambers. Accordingly, claim 16 involving a system requiring both an upper chamber and a lower chamber cannot be anticipated by Pressman.

In claim 16, one of the required features is a system comprising a horizontal axis lying along a *diameter* of the stacked disks. As already described above, such horizontal axis of the present invention is used in conveying a vertical axis of the system horizontally in order to position a pick-up device (affixed to the vertical axis) over the opening in the shelf so as to store or remove a sample from the lower chamber. By not extending the horizontal axis along the diameter of the stacked disks, there would be potential that the pick-up device could not be positioned (via the vertical axis) to properly store or remove a sample from a location on the disks. To that end, Applicant asserts that the Pressman system works without a horizontal axis of such length. Further, when referencing the Pressman system in the rejection of claim 16, Examiner does not mention this specific feature of Applicant's invention, instead describing that Pressman's "[a]rm motion in horizontal planes is afforded by lateral lead screw motor 314, which is pivotally mounted to vertical elevator carriage" (see page 5, second paragraph). This omission serves as further confirmation that Pressman fails to teach a horizontal axis lying along

a diameter of the stacked disks. Accordingly, claim 16, requiring such feature, cannot be anticipated by Pressman.

Thus, for at least the above reasons, Applicant respectfully asserts claim 16 is not anticipated by Pressman.

As described above, Examiner has further used Knippscheer in combination with Pressman in rejecting a various number of Applicant's claims. In particular, Examiner asserts that Knippscheer teaches a temperature-controlled thermo-insulated lower chamber, a thermally insulated shelf, and a controlled access opening into the lower chamber (see page 8, third full paragraph). However, with respect to the above feature of claim 16 requiring a *Cartesian* robotic system, Applicant respectfully asserts that Knippscheer fails for much the same reasons as Pressman. For example, the extraction process according to Knippscheer, due to the vertical aligning of the arm 190 with a chord of the shelf 24 (for reference, see figures 11 and 14), needs a third rotating auxiliary arm 196, to place the specimen in a position vertically aligned with a holder 130 after being shifted on an arm 190; e.g., as described in col. 10, lines 22-44. The extraction process also comprises the steps of moving a tray bearing a specimen from its position in the storage unit towards the doorway 48; e.g., as taught in col. 7, lines 45-68.

Consequently, the manner of inserting and removing samples disclosed in Knippscheer is implemented on three axes and is more articulated or complex than the manner by which the samples are inserted and removed by the present invention, i.e., implemented only on two axes. Further, Knippscheer teaches an insertion/removal system which likely results in higher maintenance costs and a worse fault tolerance.

As such, Knippscheer does not give any indication that the extraction might be carried out with only two movements. In addition, with reference to Figure 11 of Knippscheer, such a solution could not be implemented, owing to the position of the access opening 100 of the system, which is not vertically aligned with the horizontal arm 190 of the insertion/extraction apparatus. Consequently, the auxiliary arm 196 requires not only to be linearly moved along the horizontal arm 190, but also must be rotated from the rest position shown in Figure 11 to an active position above the access opening 100.

Examiner asserts that the system of Knippscheer does teach a temperature-controlled thermo-insulated chamber 22 separated from an upper chamber 122 by a thermally insulated

shelf 50 with a swingable or slideable door 100 for closing an access opening 48. As such, there is potential for the skilled artisan to combine the teachings of Knippscheer with Pressman to address the feature of Applicant's invention with respect to a system having a system having *both* an upper chamber and a lower chamber. However, it is Applicant's position that the skilled artisan would not likely combine such asserted teachings of Knippscheer with Pressman for the same reasons as why Applicant believes the Pressman system works without the need of an upper chamber, as described below.

Pressman introduces his invention discussing biological specimens; specifically (in Paragraph [0005]), Pressman states:

> "[c]urrently, biological specimens are collected for cytological examinations using *special containers*. These containers usually contain a *preservative and transport solution* for preserving the cytology specimen during shipment from collection site to the diagnostic cytology laboratory. Further, cytology specimens collected from the body cavities using a swab, spatula or brush are also preserved in special containers with fixatives (e.g. alcohol or acetone fixatives) prior to transferring cells onto the slide or membrane for staining or examination."

In the summary of the invention, (in Paragraph [0008]), Pressman states that "[i]t is *expected* that a specimen vial would be *prepackaged* with a liquid preservative solution, as is commonplace, and sent to the point-of-care site for specimen collection". Consequently, Pressman has taught procedures not entailing the need for storing specimens in a temperature-controlled thermo-insulated lower chamber. Accordingly, a different way of storing specimens is taught from that of Knippscheer.

Further, the specimens of Pressman only need temporary storing before being collected (for example on slides). For example, the collecting system can provide eight hours of unattended operation and the total throughput can exceed 160,000 slides per year (see Paragraph [0266]). This temporary storing, in combination with the use of liquid preservative solution, makes it unnecessary to provide a chambered system, i.e., requiring both upper and lower chambers. Accordingly, one skilled in the art would not be logically drawn to combine the teachings of Knippscheer with Pressman in this fashion, as it would result in unnecessary protection for the samples of the system, not to mention increased fabrication and maintenance costs for the Pressman system.

With respect to the above feature of claim 16 requiring a system comprising a horizontal axis lying along a *diameter* of the stacked disks, Applicant respectfully asserts that Knippscheer fails for much the same reasons as Pressman. As already described herein, the insertion and removal of samples disclosed by the system in Knippscheer is implemented on three axes. Accordingly, with reference to Fig. 11 for example, the horizontal arm 190 does not extend along a diameter of the stacked pluralities of samples.

Applicant asserts that upon entry of this Amendment, the claims are hereby in condition for allowance. For the above reasons, Applicants believes claim 16 should be allowed. In turn, the allowance of claim 16 thereby renders claims 17-21 and 23-38 also allowable. Favorable consideration and prompt allowance of the application are respectfully requested.

Conclusion

Applicant believes that no new matter will be introduced by entry of these amendments and that the amendments are fully supported by the specification and application as a whole. Applicant has amended the claims solely to advance prosecution of this application and to obtain the allowance of claims at the earliest possible date. No admission should be inferred by these amendments. Applicant reserves the right to prosecute the originally filed claims in a continuation application. If the Examiner feels that prosecution of the present application can be materially advanced by a telephonic interview, the undersigned would welcome a call at the number listed below.

Respectfully submitted,

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